

Leading a Lean Transformation in a game studio

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<p>This Master's thesis researches the implementation of a Lean Transformation at a game studio from the perspective of leadership.</p> <p>The purpose of the application of Lean principles and tools is to create a high-performance culture in the organization that involves all levels of the studio in continuous improvements, challenges old ways of working, removes wasteful activities, empowers individuals to use their full potential, and provides ever better games to final users.</p> <p>Such transformation requires changes in different dimensions of the organization and is a complex process. In that context, the Lean Transformation Framework and the eight-step Change Management approach by Kotter are used as reference for the change process. In addition to that, some experts in leadership of game organizations were interviewed to gather insights for the initiative.</p> <p>Based on that, a proposal was formulated to guide leadership in the implementation of the transformation. A structured approach was suggested, ensuring that all necessary aspects of the organization were addressed throughout the different phases of the change process, and that all risks were minimized or mitigated.</p>	
Keywords Lean, Lean Transformation, Leadership, Change Management, Case Study	

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1 Introduction

The Slingshot Studio is one of five game studios of Rovio Entertainment Ltd., one of the biggest game developer companies for mobile devices in the world. The main focus of this studio is the continuous development and operations of older well-known Rovio games, such as Angry Birds and Angry Birds Friends, and the development of new games. The studio counts with about twenty-five employees that are working currently in four different game titles, two of them external development.

The teams in the studio are well versed in agile development practices and make use of an iterative approach as the heart of the product development. The organization counts with a team of business analysts and user insight specialists that support game teams with the so-called build-measure-learn cycles (Ries 2011), allowing games to be improved incrementally over time based on validated learning.

However, while these good practices of are visible on the product level, the overall development processes in the studio have issues that have negative effects on efficiency, agility, innovation and team motivation. Some examples are:

- Operating live games takes up a lot of effort and resources, what limits and slows down innovation efforts.
- Specific functions are overloaded at times.
- Legacy games are built on an older technology, what makes meaningful changes more difficult and time-consuming.
- Process and tool improvements take place scarcely and are mostly initiated by leadership.
- Lack of automation for repetitive tasks, reducing time for value-added work.

In this context, the implementation of lean principles emerged as an alternative for solving these issues and became integral part of the strategy of the studio. This study will provide an in-depth view on main components of lean and describe overall strategy for the implementation of the Lean Transformation in the Slingshot Studio.

1.1 Purpose and motivations

The ultimate purpose of embarking on a Lean Transformation for this studio is to create a high-performance culture in the organization that involves all levels of the studio in continuous improvements, challenges old ways of working, removes wasteful activities, empowers individuals to use their full potential, and provides ever better games to final users.

Personally, I am a true believer of the lean philosophy and have always been very proactive in improving ways of working continuously. By working in the different roles in a software organization, like engineering, project management, product management and management, I have experienced a broad range of issues that undermine excellence. This project is a unique opportunity to address those issues on an organization level.

I currently hold a position of Head of Studio of the Slingshot Studio, with full responsibility for this studio's structure, operations, finances and especially culture. In fact, one of the most important responsibilities of the position is to build a good working culture. This role, therefore, gives me full mandate to implement and lead initiatives such as the one described in this study, as long as they comply with the organization's mission and goals.

1.2 Objectives and research questions

The implementation of Lean has been presented, discussed and accepted within the Studio Leadership Team (SLT) as part of the studio strategy. This team represents the mid-management layer in the studio, and support the Head of Studio in strategic and operational decisions, and are the direct interface with the teams. As will be described later, some initiatives have already been initiated by some individuals in that team.

Thus, this study aims to guide the implementation of that transformation, having as its main focus the approach and methods to be applied by leadership in order to achieve a successful change in the organization. These are the underlying objectives:

- Give leadership a clear understanding of its role in leading a Lean Transformation
- Provide leadership with a broad understanding of all components necessary for a successful Lean Transformation
- Support leadership in creating a lasting lean culture in the organization.

The research questions to be answered in this study are:

- **Research Question 1:**
What are the principles, methods or tools necessary to implement a Lean Transformation and how are they interconnected?
- **Research Question 2:**
What is the role of leadership in driving a Lean Transformation?
- **Research Question 3:**
How can leadership create a lasting change in the culture of the organization?
- **Research Question 4:**
What are the common pitfalls that can undermine a Lean Transformation?

1.3 Scope

This thesis work is focused on the role of leadership on the definition and deployment of a strategy that will drive the Lean Transformation in the Slingshot Studio. It explores the leadership and management activities related to enabling and sustaining the change. The actual initiatives that will result from the implementation of the Lean Transformation are not part of this study, therefore this work will not measure the impact of the transformation.

It is also important to note that even though Rovio Entertainment has five different game studios and some other central departments, the scope of this study refers exclusively to the Slingshot Studio.

2 Lean

To help understanding the motivations behind the strategic choice of applying lean to the studio, this chapter starts by giving a short introduction on the history of Lean and its origins. It then moves to describing the fundamental principles and concepts of the lean, as well the methods and tools inherent to it.

Lean has originated from the Toyota Production System (TPS) created by Taiichi Ohno. Challenged by the difficult times following the World War II in Japan, mostly regarding scarcity of resources, Ohno continuously developed a new production philosophy in Toyota with focus on improving the flow through the production line and removing wasteful activities. That wisdom has been adapted and applied in different industries over the years (Modig, Åhlström 2012).

The term “lean” was first coined by John Krafcik in his 1988 article *Triumph of the Lean Production System*. His research was continued at the Massachusetts Institute of Technology, and later was published in the book called *The Machine That Changed the World*, co-authored by Jim Womack, Daniel Jones, and Daniel Roos (1990). This book became an international best seller and made Lean known worldwide. John Womack is the founder and chairman of the *Lean Enterprise Institute*, a nonprofit institution for the dissemination and exploration of the Lean Enterprise. (Wikipedia 2017)

The primary focus of Lean is problem solving for the primary purpose of delivering value to the customer, achieved by the systematic elimination of waste throughout the value stream. Lean allows for improvement in efficiency: fast time-to-market, shorter cycles, no time wasted; and in creativity/innovation: empowering individuals, providing enough agility and flexibility to innovation activities (Bell, Orzen 2011). All these aspects are key to address the efficiency issues in the studio and ensure fast and continuous innovation in the games it develops.

2.1 Lean Principles

Bell and Orzen (2011) describe that rather the specific tools, which are merely performance enablers, it is the principles embedded within the culture of an organization that compel long-term behavioral change. Womack and Jones (2003) also states that by clearly understanding these principles, and then tying them all together, managers can make full use of lean techniques and maintain a steady course.

Some of the core lean principles are suggested by different authors based on successful and lasting Lean Transformations in organizations, which can be summarized in six principles: precisely specify value by specific product, identify the value stream for each product, make value flow without interruptions, let the customer pull value from the producer, respect and empower people, and pursue perfection (Womack, Jones 2003; Bell, Orzen 2011).

2.1.1 Value

The critical starting point for lean thinking is value and can only be defined by the ultimate customer. Value is only meaningful when expressed in terms of a specific product which meets the customer's needs at a specific price at a specific time (Womack, Jones 2003). A game company aims to provide high quality, novelty and immersive experiences to players through new games, features and content.

The game industry is well known for having mature processes and tools for gathering and analyzing qualitative and quantitative data from games that provide insights to guide on product and design decisions. Consistently listening to the voice of the customer ensures that the organization is focusing on the right issues and making improvements that will be valued by your current and future customers. Understanding customer needs and desires more clearly than the competition enables an organization to be more responsive and agile, creating competitive advantage and market leadership (Bell, Orzen 2011).

2.1.2 Value Stream

The value stream is the set of all the specific actions required to bring a specific product (whether a good, a service, or a combination of the two) through the critical management tasks of any business (Womack, Jones 2003). Example of Value Streams in a game studio can be exemplified by:

- Development of new game
- Development of a feature update for an existing game
- Creation of content update for a new or existing game

A system perspective gives the ability to view the interconnected processes that make up the entire value stream while being aware of the cause-and-effect interdependencies that either add value or create waste. When problem solving is founded on a clear understanding of the overall value stream and the customers it serves, companies avoid the common error of making local improvements which often transfer inefficiencies and waste from one

area to another. (Bell, Orzen 2011)

According to Womack and Jones (2003), analyzing each entire value stream will identify:

- the many steps that unambiguously create value and will have an impact on the players.
- the steps that don't create value but are unavoidable with current technologies and production assets, for instance due to legacy technologies.
- the steps that create no value and represent enormous amount of waste, such as producing unnecessary assets, documentation or even maintaining under-used game features.

2.1.3 Flow

Bell and Orzen (2011) describes flow is the uninterrupted progression of materials, services, and information, and for a game company this could be comprised of for example game assets, content, data reports, etc. A deficient flow of work generates waste manifested as interruptions, delays, rework and cost. As flow improves, information and work product are received earlier by both internal and external customers.

That can be challenging for a game company, as for one single project there is often involvement and dependencies between different disciplines (design, art, programming, QA, etc.) and several other departments (business intelligence, technology, compliance, advertisement, customer support, etc.). Flow efficiency optimization requires a cross-functional perspective, drawing individuals, workgroups, and departments away from local optimization and silo thinking. That systems thinking enables people to see the whole process and understand value from the customer's perspective (Bell, Orzen 2011).

2.1.4 Pull

Generally, the more work in process there is, the less work can flow, and the more slowly work is completed. Because there are usually different disciplines involved in game production, individuals are often tasked based on their idle time without considering the impact down the workflow. However, work-in-process inventory causes congestion, confusion, and delays; hides problems; must be managed and tracked; often becomes obsolete; and is often reworked or discarded. This in turn creates further interruptions, delays, rework, and cost (Bell, Orzen 2011).

Typically, work will flow until it encounters a barrier that prevents it from continuing. When work cannot be designed to flow, it needs to be connected to another series of tasks using a pull mechanism. Pull removes the opportunity for overproduction and supports flow by

regulating work activity. The sequence of the pull signal establishes clear priorities, the receiver of the signal is directly accountable, and the signal itself provides visibility (Bell, Orzen 2011).

2.1.5 Respect for people

Respect for people treating every individual with consideration and regard, empowering them to make use of their full creative potential. In a collaborative learning environment, people know their ideas are valued and appreciated. Without respect, people tend to withdraw their support, concern, and active participation. Consequently, organizations lose the creativity and innovative potential each person offers, what is very harmful when creativity and innovation lie at the heart of the gaming industry (Bell, Orzen 2011).

Those individuals actually doing the work see potential improvement opportunities at a deeper level than anyone else in the organization, but unfortunately it is very uncommon to see such kind of initiatives coming from employees (Bell, Orzen 2011). I have seen that many individuals don't realize that they are even allowed to take actions outside their role, because that has never been explicitly articulated by leadership.

To conclude, a Lean Transformation requires the input, support, and active participation of everyone in the organization. Lean organizations foster collaborative problem solving where people can learn from successes as well as from mistakes. For that, the organization must provide a safe environment for sharing ideas, taking experimental risks and failing (Bell, Orzen 2011). If people are punished for their mistakes and failures, they will withdraw from any risks and remain in their comfort zone.

2.1.6 Pursuit of perfection

The continuous quest for excellence stimulates everyone in the organization to make things better and avoid falling into patterns of stagnation in our daily behavior. It removes the different difference between performing the work they do, improving the work they do, and improving themselves (Womack, Jones 2003).

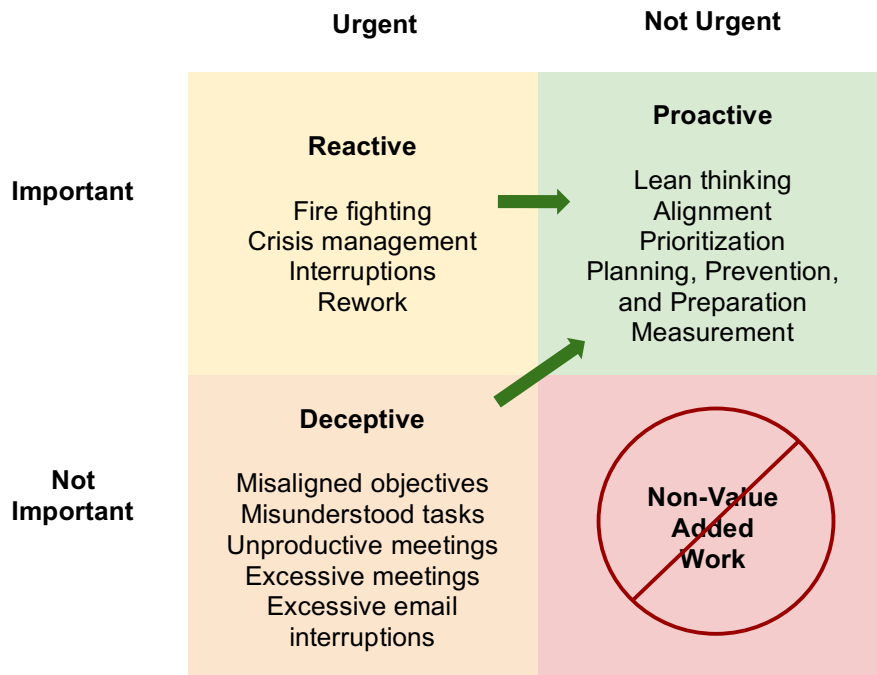


Figure 1. Lean perspective of the importance paradigm. (Bell, Orzen 2011)

For example, when game is being developed and operated in live environment at the same time, the live issues can lead to a constant fire-fighting moving efforts away from developing new things. Another example is in the development itself, a high amount of work-in-progress and deadline pressures can also lead to quality issues that will force teams to spend lots of time with bug-fixing and rework. Lean shifts the emphasis away from that kind unplanned work to proactive continuous improvement, as shown in Figure 1. With more time is invested in process improvement efforts, less problems will occur, freeing additional time to work on more proactive improvements or value-added work. People take the initiative, assuming responsibility for the quality of our work and work environment and see change as inescapable and necessary (Bell, Orzen 2011).

In addition to that, there is an obligation to stop and fix problems, and a shared commitment to avoid passing known defects downstream toward the next step of the stream. Every effort is made to ensure the problem or defect is prevented the next time, leaving more time is available to do the work valuable for customers, which in turn improves productivity, cost, quality, and morale (Bell, Orzen 2011). With treated as services that are run for years resulting in increasing complexity, both continuous improvements and quality at source become fundamental to optimize the use of resources and ensure effective live operations.

2.2 Lean Tools

Even though a transformation shouldn't be rooted on tools, but rather in principles, as describes Bell and Orzen (2011), a set of tools can be used during a Lean Transformation to facilitate the assessment of the value streams and supporting the improvement initiatives. Some of the most common tools are defined in this chapter.

2.2.1 Identify Waste

Wasteful practices can be divided into three categories known as the three Ms in Japanese: mura, muri, and muda (in English: Unevenness, Overburden, Waste). The differences and similarities among these terms lead to a deeper understanding of the impact of wasteful practices and the need for their methodical elimination (Bell, Orzen 2011).

Unevenness and variation represent inconsistency in the flow of work, caused by changes in volume (uneven demand), mix (variation), and quality. One example of this is when some people must constantly switch tasks in between addressing live issues and the development of new features. The constant change in focus results in low quality that manifests as inflow of more issues that, in turn, causes an uneven demand of unplanned work. It is the responsibility of management to minimize the impact of variation by encouraging standardized product and process design, leveling demand, and introducing flow, pull, and just-in-time production control and delivery systems (Bell, Orzen 2011).

Overburden in turn represents placing unrealistic workloads on people and equipment, which leads to stress, mistakes, rework, and poor morale. This issue manifests in the studio mostly as a result of the issues mentioned in the previous paragraph or due to lack of balance of the different disciplines in game development (e.g. number of client developers vs number of server developers). Management must remove overburden by designing processes for workflow and consistent quality, standard work, cross-training, and balancing resources to create stable capacity conditions that support the smooth flow of information and work. (Bell, Orzen 2011).

Waste is any non-added-value work, which don't bring benefits customer and don't affect the value of the product or service if not performed. Waste can be categorized in eight categories (Tang 2015) which are described next.

Overproduction: producing more or sooner than is needed by the customer (this contributes to the other wastes). Examples include creating reports that no one needs or making

extra copies, exceeding scope of agreement, producing assets or content that won't be used, full design specifications that might not be used or needed, etc.

Waiting: stopping or slowing down for work to arrive. Examples include waiting to be served, waiting for instructions/approvals/information, equipment/system downtime, etc.

Rework: correcting defects and mistakes, inspection, and scrap. Examples include data entry errors, poor process controls, missing assets, broken game builds, etc.

Transportation: movement of work product, information, and materials. Examples include poor workplace organization, insufficient use of tele-/video-conferencing, double or triple handling, etc.

Inventory: having more than the minimum levels of raw materials, work in process, and finished goods required to support flow and pull (excess inventory disguises other wastes). Examples include e-mails waiting to be read, design documents waiting to be worked on, too many office supplies, etc.

Motion: unnecessary physical movement. Examples include searching for information on internet/computer, handling paperwork, unnecessary motion due to poor ergonomics or office layout, etc.

Over processing: excessive or unnecessary work, such as repeated manual work, excessive documentation, multiple formats of the same information, etc. This relates, for instance, to the lack of automation for repetitive tasks in the studio. On a different note, it is worth highlighting that developers are often encouraged to put extra effort in polish and go beyond the specifications. That is aimed at providing the best possible experience to the player and therefore is not considered excess.

Intellect: unused human creativity and potential. Examples include not engaging or listening to employees in finding solutions, lack of best practice sharing, mismatched work functions with skill sets, etc. One of the goals of implementing lean in the studio is to tap on this issue by creating the conditions for people to apply all their knowledge as well as they can to improve their work and their ways of working.

2.2.2 Value Stream Mapping

As describes Bell and Orzen (2011), value stream mapping depicts the follow of information, materials, and work across functional siloes with an emphasis on quantifying wastes, including quality and time. The authors also describe that beyond the physical map itself, the activity of mapping helps to bring a multidisciplinary team together, develop a common language to describe the problem, build consensus and team chemistry.

Mapping the value stream enables the team to identify non-value-added steps in the process, quality issues, and where work does not flow. Once they agree on that the current state is depicted by the value stream map, they can identify which points of improvement could bring the most results. Based on that, a target state of the improved value stream can be defined to highlight gaps between current and target future state, prioritize activities, and establish metrics (Bell, Orzen 2011).

2.2.3 Kaizen

Kaizen (Japanese for continuous improvement) is a systematic improvement methodology that is central to Lean. Kaizen involves many small incremental improvements and provides structure to process improvement. As shown in Figure 2, there are three types of kaizen: system kaizen, process kaizen and daily kaizen (Bell, Orzen 2011). The transformation described in this study aims to lead to the implementation with initial focus on system and process kaizen in the initial phases, and in the later phases incorporate the daily kaizen as a common part of the day-to-day work.

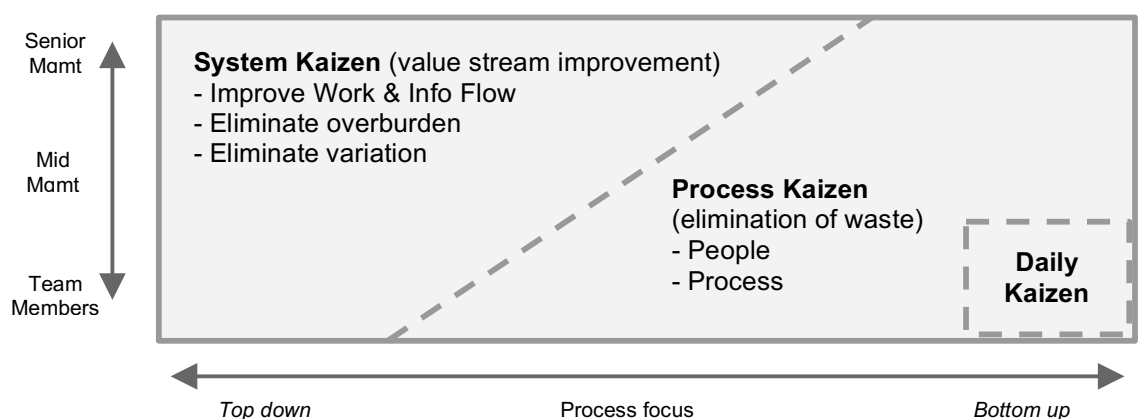


Figure 2. Kaizen types (Bell, Orzen 2011)

System kaizen attempts to improve the overall value stream by enhancing material and information flow, and is the focus of management. Studio Managers, Game Producers and other managers are responsible for addressing the systemic conditions of unevenness and overburden (Bell, Orzen 2011).

Process kaizen, performed by teams and individuals, concentrates on reducing waste in specific focus areas within the value stream. Some of these efforts are visible in the studio sometimes, but they still happen scarcely and are mostly initiated by leadership. This could be explained partly by the lack of empowerment to proactive behavior, but one underlying reason is the lack of time for this kind of initiative, which is imposed by systemic wastes. When systemic wastes are eliminated, workers then have the time, energy, and focus to continuously improve their activities to eliminate waste (Bell, Orzen 2011).

Daily kaizen is spontaneous improvement performed as a need is identified. For example, when a problem is encountered, an individual or small group stops working to identify the problem, analyze it, develop potential countermeasures, select the most promising solution, make the improvement, and assess the impact. In the studio, this kind of kaizen is performed rarely and only for major issues. In most cases only a palliative solution is put in place. However, Bell and Orzen (2011) affirms that the highest proportion of problem solving should occur at the daily kaizen level.

3 Lean Transformation Framework

The Lean Transformation Framework (LTF) described in this chapter is not a step-by-step approach to implementing a Lean Transformation, but rather it describes the fundamental building blocks that require change in such initiative.

According to the Lean Enterprise Institute (2017), an effective lean enterprise transformation requires changes key dimensions (see Figure 3):

- Situational Approach
- Process Improvement
- Capability Development
- Responsible Leadership
- Management Systems
- Basic Thinking, Mindset and Assumptions

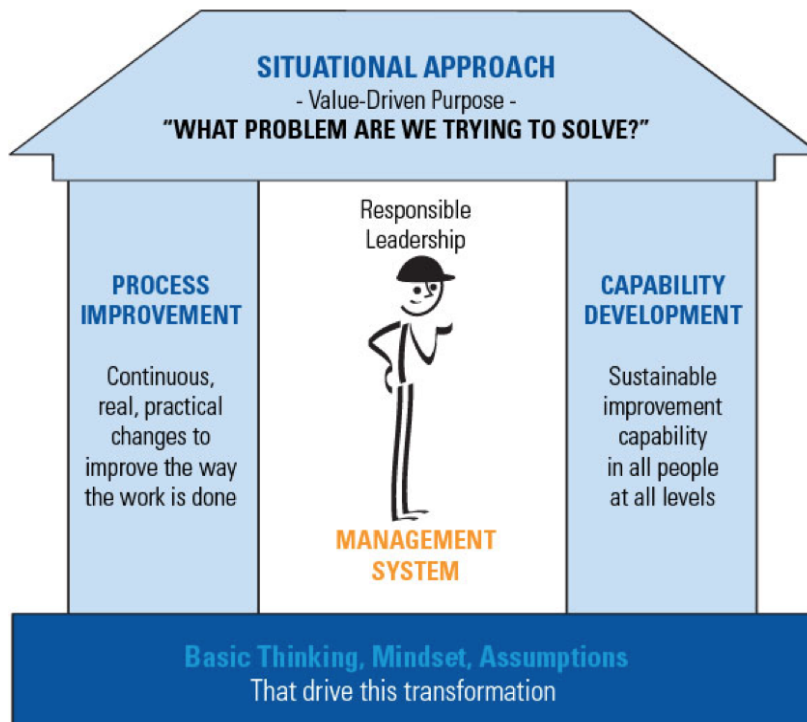


Figure 3. Lean Transformation Framework (Lean Enterprise Institute 2017)

As illustrated in the Figure 3, leadership has a central role in ensuring that all these questions addressed. If there is a lack of understanding on those issues and how they are interconnected, the transformation will struggle to sustain its momentum.

It is important to notice that there is a remarkable difference between leadership and management. Even though managers usually also have or embody the role of leaders, leadership refers to soft skills that relates to people and cultural aspects, while management is

about practical managerial skills and systems. Those are described in more details in the next topics.

These same questions presented by this model apply whether working at the macro enterprise level (system kaizen) or the level of individual responsibility as you dive progressively deeper into each dimension of an organization (process and daily kaizen).

3.1 Situational Approach

A Lean Transformation is situational, meaning that each implementation is going to have a specific and different aim. For having a situational approach, this framework would allow a consistent yet flexible application of lean principles in different value streams or areas of the organization (Lean Enterprise Institute 2017).

People have a need for purpose and meaning for making a contribution to that which is meaningful. Regardless of their salary, good experiences and relationships, if their work is not intrinsically satisfying or if the outcome does not contribute constructively to society they won't be motivated in the highest and deepest sense (Covey 1992).

The common denominator of success is a strong, empowering, guiding, inspiring, uplifting purpose (Covey 1992).

The purpose is defined by the objectives, goals, aspirations of an organization, and define the true north for all activities. This value-driven purpose is not about profits, but should define the reason for the existence of the organization in question, and more specifically what is the value being created to customers, society and employees (Lean Enterprise Institute 2017).

Every individual in the organization needs to be able to understand how their work contribute to the purpose of the organization, what is the problem they are trying to solve. (Lean Enterprise Institute 2017). For some game developers, making games is an art and the exclusive focus on business can become a frustration. Therefore, it is extremely important that game companies not only build a mission that inspires their employees, but also preserves the right balance between mission and business goals.

3.2 Process Improvement

Process is the means through which work can be done in order to fulfill the purpose of the organization. It includes not only how it needs to be done, but also how the work can be continuously improved (Lean Enterprise Institute 2017) .

In a Lean Transformation, the organization must assess each major value stream to make sure each step is valuable, capable, available, adequate, flexible, and that all the steps are linked by flow and pull (Womack, Jones 2003). Game development processes are designed and managed in different ways even within the same organization. Even though some flexibility is necessary due to, for example the different nature of each game or the composition of teams, that could hide issues and inefficiencies. Therefore, each one of them must be evaluated in detail.

During that process, agility must be ensured, which is the proper balance between efficiency and flexibility. Efficiency means performing work well without wasted effort, making use of fewer resources. On the other hand, flexibility entails responding to change quickly with limited disruption. While operating efficiently, it is also important for the organization to be responsive and adaptive as customer needs change and new opportunities arise, especially in an environment of fierce competition as the game industry (Bell, Orzen 2011).

3.3 Capability Development

The capability development in this transformation model refers to the capabilities needed in the people in order to complete the work needed to ultimately fulfill the organization's purpose, as well to continually improve the process (Lean Enterprise Institute 2017; Womack, Jones 2003).

Leadership must ensure that everyone touching the value stream is capable and actively engaged in operating it. Womack and Jones (2003) recommend all the change agents and management in the organization must master it themselves to a point where lean thinking becomes second nature. That would help them advocate the principles and practices to the rest of the organization, giving clarity to the goals of the transformation.

3.4 Responsible Leadership

The leadership aspect in a Lean Transformation represents the soft skills, the behavior and attitude required of leaders and everyone to be able to work effectively in this management system (Lean Enterprise Institute 2017). The way leadership deals with people in terms of respect, empowerment, support, recognition and tolerance to mistakes has a major impact on individual behavior and culture, making it a central element in a Lean Transformation.

Furthermore, leadership is responsible for defining, translating and communicating the purpose, strategy and goals throughout the organization to teams and workers, ensuring a clear focus on what matters the most. That persistent direction is fundamental to influence behavior (Bell, Orzen 2011).

Once the direction is provided, there should be a balance between leadership and employee-driven participation. In a process known as strategy deployment, leaders establish objectives and employees determine how to best accomplish and measure them (see Figure 4). Through dialogue between both parties, they align strategy and action at each level of the organization. Thus, the ideas for improvement are developed and implemented based on a clear understanding of the context of the work (Bell, Orzen 2011).

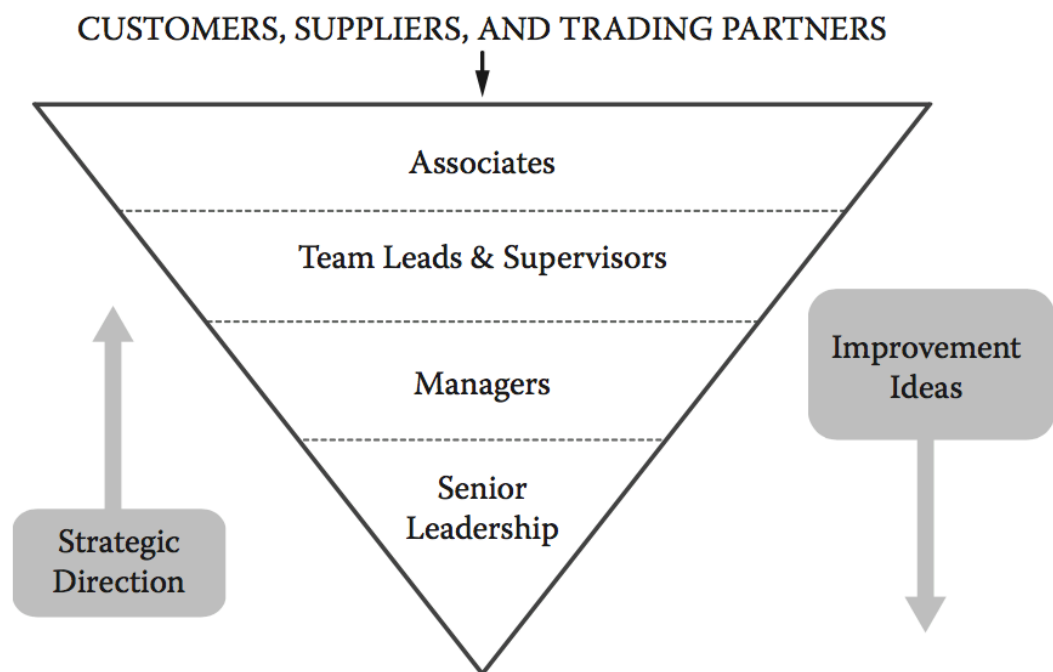


Figure 4. Lean Enterprise inverted managerial pyramid. (Bell, Orzen 2011)

In summary, by adopting a visible and active role in supporting the Lean Transformation, leaders encourage people to challenge the way things are done and take ownership for improvement, collaborative problem solving, and quality (Bell, Orzen 2011).

3.5 Management Systems

The management systems support the new ways of working throughout a Lean Transformation initiative. It provides a structure for building capabilities while doing the work (Lean Enterprise Institute 2017).

Once an organization formulates its purpose and communicates this as its strategic intent in terms of long- and short-term goals, it must then establish measures that assess progress against those goals, supported by management systems such as review meetings or visual dashboards that quickly signal and address deviations (Bell, Orzen 2011).

In addition to that, an important enabler of effective leadership is a formal decision-making framework to provide clear priorities on improvement areas and consistent choices when selecting kaizen projects (Bell, Orzen 2011). This framework should allow participation from all employees not only in contributing in the prioritization and selection of initiatives, but also in suggesting new initiatives.

Lastly, for a management system framework to be effective, it must be simple to understand and execute, providing guidance while not being too controlling or rigid. This would also ease the adoption of new practices. Otherwise, it will suppress creativity and learning, consequently hindering improvement and innovation (Bell, Orzen 2011).

3.6 Basic Thinking, Mindset and Assumptions

This topic in summary refers to the culture of the organization, which is at the very foundation of a Lean Transformation. It is the underlying mindset that informs everything that is done in the organization, composed by the assumptions that comprise the existing culture (Lean Enterprise Institute 2017).

Culture is only a manifestation of how people see themselves, their co-workers, and their organizations (Covey 1992).

As described by Lean Enterprise Institute (2017), the underlying mindset is composed by explicit assumptions that are articulated, and by implicit assumptions that people are not all aware of in a moment to moment basis.

A sustained Lean Transformation is only possible when the culture evolves to reinforce new behaviors. A lean culture is developed over time by changing the way people perceive their roles and perform their daily work. It is necessary to develop a solid foundation of main beliefs that inspire respect, proactive behavior, innovation, and constant learning (Bell, Orzen 2011).

4 Change Management

Considering that a Lean Transformation needs to address a wide range of complex issues as described in the previous chapter, a change management approach must be in place to drive a Lean Transformation.

Kotter (2007) affirms that the successful cases of major transformations are those which the change process goes through a series of phases that usually require a considerable length of time. Skipping or making critical mistakes in any of the phases can have a devastating impact, slowing momentum and negating initial gains. These eight phases defined by that author are covered in this chapter along with other lean specifics from other authors.

4.1 Establish a sense of urgency

The first step for leading change is to create urgency. It is essential because just getting a transformation program started requires the aggressive cooperation of many individuals. Without motivation, people won't help, and the effort goes nowhere (Kotter 2007).

This effort is usually driven by an executive champion, which is the Head of Studio in the study case, who initially establishes a sense of urgency, a compelling argument that the organization must change in a fundamental way (Bell, Orzen 2011). In a related note, Kotter (2007) advises to focus major risks that could impact the company results and competitive edge or existing negative trends in the business. This change proposed in this study case is not grounded on major risks, but on opportunities for improvement in performance and employee motivation. In that case leadership must have a more aggressive approach in highlighting the issues being addressed and the risks they bring along.

4.2 Form a powerful guiding coalition

The guiding coalition is a team of change agents that help creating momentum for the change, and act as advocates for change in different levels of the organization. Kotter (2007) describes that successful transformation efforts often start with just one or two people and gathers more people over time. This team operates outside the normal hierarchy as it includes members that are not part of management, what can be essential in showing by example that improvement initiatives can be initiated from every level.

The change agent doesn't need detailed lean knowledge at the outset but instead a willingness to apply it. However, leadership should invest in educating those individuals, developing their coaching skills so they can become the frontline of the Lean Transformation. These individuals will act as catalyst to the change and will eventually become the ambassadors of lean, spreading lean thinking across the entire enterprise (Womack, Jones 2003; Bell, Orzen 2011).

The Lean Transformation will begin to take hold when this core group develops problem-solving mind-set, accompanied by the ability to tell compelling stories about the value and necessity of lean thinking within the context of the organization (Bell, Orzen 2011).

4.3 Create a vision

According to Kotter (1996) a change vision has three main purposes. First, it gives the organization a picture of what the future looks like after the change is implemented and clarifies the direction of the change. Secondly, it motivates individuals to get out of their comfort zone and take actions towards that direction, even if they are difficult or not in their short-term self-interests. Lastly, the vision and strategy coordinates these actions in a fast and efficient way, allowing to avoid or stopping activities that are not aligned with the vision. It also provides a frame in which employees can figure things out for themselves without constant verification from superiors.

A vision is grounded in a clear rational understanding of the organization, its market and competitive trends. In that context, strategy plays an important role in describing how the vision can be accomplished (Kotter 1996). The same author also suggests that an effective vision has six characteristics:

- Imaginable: conveys a picture of what the future will look like.
- Desirable: appeals to the interest of employees, customers and other stakeholders.
- Feasible: comprises realistic, attainable goals.
- Focused: clear enough to provide guidance in decision making.
- Flexible: general enough to allow individual initiative and alternative solution when conditions change.
- Communicable: easy to articulate; can be explained in five minutes.

Kotter (1996) argues that the creation of a vision is a complex process and should be done in collaboration with the guiding coalition team, and possibly other individuals. It requires not only a lot of analytical thinking based on data, reports, etc., but also consideration for sensible values that resonates deeply on a personal level.

4.4 Communicate the vision

One of the most common failures when leading change is to under-communicate. Transformation is impossible unless people are willing to help. Without credible and abundant communication showing that positive change is possible, employees will not make sacrifices (Kotter 2007).

The same author proposes a simple guiding principle for communication: use every possible channel, especially those that are being wasted on nonessential information. Executives who communicate well incorporate messages into their regular activities. In personal discussion, performance review, management meetings, they connect contextual events and facts to the transformation and its goals.

Another important aspect is that actions of leadership is a powerful form to communicate, and for that reason they must “walk the talk”, and show consistent behavior with the new culture. If their behavior is inconsistent with their words, the change could be highly undermined (Kotter 2007).

4.5 Empower others to act on the vision

As Kotter (2007) describes, employees should be empowered to try new approaches, to develop new ideas, to take risks and to provide leadership. The only constraint is that the actions fit within the broad parameters of the overall vision. The more people involved, the better the outcome.

The guiding coalition empowers others by communicating the new direction, but in addition to effective communication, it is necessary that all obstacles are removed to allow people to embrace the new behaviors. Sometimes obstacles are in a person’s mind, created by implicit assumptions in the current culture. The challenge in this case is to convince the individual that there is no external obstacle and build trust that the new culture supports a change. Sometimes the barriers are in the organizational structure, for instance: narrow job descriptions that undermine efforts to increase productivity or limit the reach of individuals; unfair compensation and performance-appraisal systems that lead people to choose between the new vision and their self-interest; managers that refuses to change or act inconsistently with the overall vision (Kotter 2007).

In the first half of a transformation, the organization will not be able to remove all obstacles, but the big ones must be addressed early. But even if the problem is a person, he or

she needs to be treated fairly and in a way that is consistent with the new vision (Kotter 2007).

4.6 Plan for and create short term wins

A full transformation takes time, so in order not to lose momentum short-term goals are needed to be met and celebrated. Most people need evidence that the initiative is producing results before they can fully commit themselves to it. Without short-term wins, people are more likely oppose the change (Kotter 2007).

Managers should not only expect for the short wins but actively produce them. They must look for ways to obtain clear performance improvements, establish goals in the yearly planning system, achieve the objectives, and reward the people involved with recognition, promotions, and even money. Besides, the commitment to produce short-term wins will help keeping the urgency level up and force detailed analytical thinking that can clarify the visions (Kotter 2007).

In a Lean Transformation, the focus should be on those areas that are most likely to demonstrate early support for the Lean Transformation. In addition to the short-term wins, the initial kaizen pilots can be useful to standardize communications, training, and the use of basic tools and measurements (Bell, Orzen 2011).

Bell and Orzen (2011) suggest that in this phase, the current value stream is mapped at a macro level, identifying and quantifying the flow of work and information of enterprise-wide core processes, linking the strengths and weaknesses of these value streams to strategic goals. With that is possible to develop a reasonably simple and coherent model of value streams and support processes that will help prioritize and sequence change efforts.

4.7 Consolidate improvements and produce more change

Once the first improvements are concluded and yield results, leaders should communicate success, failures, and lessons learned openly to establish trust and build support (Bell, Orzen 2011). However, Kotter (2017) points out that celebrate victory too early kills the momentum and can be catastrophic. The author states that it takes a very long time until changes sink deeply into a company's culture, even five to ten years. Before that, new approaches are fragile and subject to regression.

Using the credibility created by the pilot projects, expanded cycles of improvement should then be launched, moving from the pilot phase to ongoing and self-sustaining kaizen activity. Those often involve identifying those members of management who are most enthusiastic, and use their energy and persuasion to pull value stream improvements that are slow to adopt (Bell, Orzen 2011).

Bell and Orzen (2011) argue that accountability should be explicit and strong to avoid regression. The Lean management systems should be integrated into enterprise management process, and kaizen planning and results measurement should be part of the regular management review and planning processes.

4.8 Institutionalize new approaches

The changes will only stick if new behaviors are rooted in social norms and shared values of the organization, otherwise they are subject to degradation as soon as the pressure for change is removed. Kotter (2017) describes two factors that are particularly important to institutionalizing change in the corporate culture.

The first is to communicate actively on a conscious attempt to show people how the new approaches, behaviors, and attitudes have helped improve performance. For example, using some time in major management meetings to discuss why performance was increasing, or publishing in the internal news how certain improvements had improved results.

The second factor is about ensuring that the next generation of top management understand and act according to the new approach, through adjusting the requirements for successions. Even if a successor is not against the change, they may undermine the change by not being champions of the transformation.

5 Research Methods

The philosophical stance of this applied research is based on Pragmatism. It takes a deductive approach on the implementation of a Lean Transformation in the subject organization based on the theory and insights of experts.

5.1 Data Collection

The strategy for this study is study case and is accomplished by with suggestions for implementation. The data collection method is deep interviews conducted in semi-structure form. The interviews are based on pre-defined and open follow-up questions and will be conducted with a small group of experts to explore their perspectives on organizational transformation.

5.2 Target group for Interviews

The interviews will be held with managers from Rovio and are aimed gathering insights on the role played by leadership and on other variables that play a role in leading a transformation. Even though they haven't gone through a Lean Transformation, they have experienced comparable organizational transformations and thus have played active role in leading change.

This target group is composed by five professionals whose experience in different leadership positions range from 10 to 27 years. They all have years of experience leading game studios and currently hold senior leadership positions in the Rovio, as follows:

- Head of Studio (3 individuals)
- VP Global Studios (1 individual)
- Product Lead, until recently also a Head of Studio at Rovio (1 individual)

The interviews are conducted with each individual separately and with the duration of approximately one hour.

5.3 Interview questions

The interview questions were defined mostly based on the change management approach described in chapter 4, more specifically to the eight-step change by Kotter (2004). Some

of the questions however are based on some of the components of the LTF, mainly related to capability development, management systems, leadership and culture. The final question is designed to identify any potential issues not yet covered by the research.

Below is the list of questions to be used in the interviews:

- What are the first steps from leadership in initiating such a transformation?
- How to create a sense of urgency for change?
- How to build a strong coalition of change agents to drive the change?
- Who should be part of the coalition team?
- How to train and communicate a new philosophy and concepts (i.e. Lean principles) that underlie the transformation?
- What channels should be used by leadership to communicate about the transformation? How often should it be communicated?
- What kind of management systems could be used to support this transformation?
- How leadership can influence change in people's behavior?
- How to ensure the changes become part of the culture in the long run?
- What are the main challenges in leading a change in the organization? How to avoid them?

5.4 Analysis methods

The analysis for the implementation of this study is based on the critical view of the author based on his experiences and opinions, and will be conducted evaluating the data collected in the interviews with the insights provided from the literature. It worth to mention that the eight-step change management approach presented in Chapter 4 (Kotter 1996) is adapted to provide more specific steps that address Lean specific issues.

6 Interview results

This section summarizes the results of the interviews purely based on the interviewees views and recommendations.

Question: What are the first steps from leadership in initiating such a transformation?

A point mentioned by one of the interviewees, is that before initiating the change, the leader must ensure that he is empowered and has the mandate to drive change. At the same time, the leader must have the trust from the team.

A common view from two interviewees is that leadership must dive into the details of the current process, culture, ambition and have a full understanding of the status quo. Leadership must show respect and trust for the people and their current ways of working to avoid resistance during change.

The most common topic raised by all interviewees refers defining a strong and clear vision for the change, one that can be easily communicated and that motivates people. Leadership must describe how the change is linked to achieving that desired outcome. Everybody should understand how it benefits all stakeholders, including the customers and those doing the work. In addition to that, an overall plan is needed very early to provide general direction, define the duration of the project, and manage expectations. At the end, all must come to the conclusion that the change is really needed.

All interviewees also referred to change coalition and work delegation. It is necessary to define a team to lead the change. In that context, leadership is not supposed to deal with details, but to select the people who can contribute and give them autonomy to do the change. But, while leadership shouldn't micromanage, they must lead by example, be present to provide the help and feedback needed, and constantly show support.

Question: How to create a sense of urgency for change?

According to one of the interviewees, urgency is hard to create. Another one stated urgency can be engineered. The point of most agreement between the interviewees is that it needs to be strong, threatening, often created by external factors, negative events, or things that are not performing well, even in times of success.

Some interviewees also stated that it is necessary to prioritize the change initiatives over other activities or even projects, to emphasize its importance and build urgency.

Finally, a couple interviewees stated that only a little sense of urgency might be needed when goals are clear, people are motivated and passionate towards them, or see it as an opportunity for personal growth.

Question: How to build a strong coalition of change agents to drive the change? Who should be part of the coalition team?

There was strong consistency in the views of all interviewees on this question. The criteria they describe for creating a strong coalition team are:

- Key people who have influence in the team and can champion the process
- Individuals who want to get better on what they do
- Individuals who are passionate and have a personal connection with the issue
- Opinion leaders, trusted by other people
- People who are excited about the change
- Individuals who are engaged with the company

Regarding the composition of the teams, the general agreement is that there needs to be a mix of individuals with different backgrounds and levels. The different backgrounds will allow them to contribute with different perspectives. Having people from different levels, outside the hierarchy, allow these individuals to affect their peer groups directly. That is more effective than influencing only from the top.

The most unique opinion for this topic is that at least one individual who is non-believer in the change should be in this team. That person can be critical and anticipate major issues. It cannot be however a person who is completely negative and would try to jeopardize the whole initiative.

Two interviewees described also that after selecting the first group, they will be selecting and involving other people gradually, depending on the initiatives.

Some of the interviewees mentioned that the Product Leads, who have full accountability for the project, don't necessarily need to be deeply involved in the change, but must understand well the vision and priorities.

Question: How to train and communicate a new philosophy and concepts (i.e. Lean principles) that underlie the transformation?

The view of the interviewees is that only the coalition team should be initially trained on the new concepts, so they use that knowledge to influence other people and facilitate activities. It was mentioned in the interviews that leadership should be careful not to create an elite team that holds all knowledge and enforces changes on the organization.

For the rest of the organization, the interviewees recommend a high-level information sharing as everybody must understand what is going on and why. For this purpose, leaders can focus in telling simple stories, use examples from inside or outside of the organization, or give workshops to get people thinking about the subject of change.

Some of the individuals shared the opinion that buzzwords and technical terms should be avoided when possible, as they are often unclear or even scary to some. Thus, communication and education should make use of real examples, for instance by showing results of the application of underlying concepts. People will then learn by the example of their peers or role models, and will act on a common-sense approach.

Question: What channels should be used by leadership to communicate about the transformation? How often should it be communicated?

The overall feeling of all interviewees is that leadership should communicate as often as possible, and directly to people (not through documentation or emails). As stated by one of the individuals, that provides full transparency and creates a sense of control as things move forward. In addition to the official communications on the initiative, other channels should be used:

- Monthly sessions with the whole team
- Weekly sessions with the whole team (if small enough)
- Informal discussions
- Online team chat for more informal updates
- Strategy reviews with leadership team
- Leadership meetings

Another point consistently highlighted by the interviewees is that every progress or new event, even if small, should be communicated and linked to the change program. These small victories help to create the feeling of momentum. Another advice is not to hide what didn't work or hype what is not that successful.

Question: What kind of management systems could be used to support this transformation?

Some different but complementary views were shared for this point. Overall, there was a recommendation of having regular meetings to verify progress (weekly, monthly, quarterly), perform course correction, decide what is next. Change should be made part of a standard routine through simple systems.

Some of the interviewees suggested that the management systems related to the change should be integrated with existing management systems as much as possible in order to avoid overhead. However, there were reasons for having separate systems:

- Having separate systems focused on the change initiative shows its importance.
- In the beginning of the initiative, when more attention and control is required.
- More detailed sessions are needed to gather learnings for future initiatives.

One final recommendation was to tie the change initiative into the target setting process, highlighting its importance and making it more relevant to each individual.

Question: How leadership can influence change in people's behavior?

One common expression heard in the answers for this question was "lead by example". According to the views of the interviewees, leadership must comply with the new ways of working, support the change and participate in the initial activities more actively. Leadership that doesn't act consistently with the vision has a negative effect on the change and must be removed.

Another point brought up by some individuals is that organization must believe in the change. The leader must believe it first so he can sell to the team. If people buy-in into the idea they will be invested.

One of the interviewees suggested that is necessary to find what motivates each person to engage in the change. He also suggested that people should be challenged.

An interviewee suggests that Product Leads and Producers have a lot of power on a team level and individual behavior, so must be behind the change or it will fail. That's because there may be a conflict of priorities between project work and continuous improvement

work. Therefore, change related activities should be reflected in the planning and a long-term view must be considered.

To conclude this question, the most distinct recommendation. One of the individuals claims that all sort of impulses that break the old routine and behaviors, on macro and micro level, such as changes in physical environment, changes in supervisor structure, etc., can create an atmosphere for change, even if somewhat superficial. He argues that it would teach that people don't have to be afraid of change, and that there is often a positive outcome.

Question: How to ensure the changes become part of the culture in the long run?

The celebration of every progress and replication of success from pilot projects was mentioned twice in this question. As stated by the interviewees, the pilot project results should be analyzed and the conclusions communicated. The positive results should be highlighted, for instance with customer support testimonials, statistics on improvements, etc.

As described by one interviewee, the next step is then to define how those results can be taken forward to the rest of the organization. It shouldn't be assumed that work performed in the pilot project can be replicated exactly as it was, but all steps should be repeated for each new area/project to manage the change properly. That's because some different kind of problems or resistance can be found in a different context.

In addition to those, some other recommendations were given:

- Build trust with the team and give them power to act.
- Be demanding with the direct reports for high-performance and show them how important it is to perform well.
- Create an environment where criticism is well accepted and common, to motivate people to perform well.
- Ensure people are in the right place. Focus on their strengths.
- Listen constantly, verify if decisions were right, if people are enjoying their work, growing, etc.

Question: What are the main challenges in leading a change in the organization? How to avoid them?

The following risks were listed during the interviews:

- People who don't support the change or don't act according to the new ways or working.

- Lack of understanding of the vision.
- If something similar has been tried before and didn't work, this will affect the belief of people in the change.
- Lack of follow-up for the first initiatives and their results.
- Focus too much on the solution as a measure of success, rather than the vision itself.
- The people focused in the pilot project stay focused in same project after pilot and don't help other initiatives that are starting.

As actions to avoid some of the aforementioned risks and also some general guidelines, the following practices were recommended:

- People who don't support the change or don't act accordingly should be removed.
- Don't make the initiative too academic or by the book. Trust common sense, observe how things are going and adapt to reality.
- Follow first initiative closely and share results.
- Don't try to make things too fast.
- Don't micromanage.
- Don't try to push things to happen forcefully.

7 Proposal for Implementation

This chapter presents a proposal with suggested actions for leading of the Lean Transformation in the Slingshot Studio, with the aim of providing clear understanding on the different elements involved in this change, outlining the role of leadership, and describing the necessary steps to create a lasting change. It is important to note that some early actions were taken prior or during the development of this report and those will be analyzed in the context of the implementation plan.

7.1 Prerequisites for the change process

Based on the recommendations made during the interviews, it is possible to affirm that all prerequisites for starting the change process are fulfilled. The most remarkable one, which are described in this sub-chapter, are:

- Have the necessary mandate for the change
- Have the trust from the team to conduct the change

As described earlier, the Head of the Slingshot Studio, with support of the Studio Leadership team have mandate within the studio to make decisions regarding to structure, processes, business, investments related to operations, and culture. The SLT is composed by:

- Product Leads: leads of the product and the game teams
- Lead Producer: project manager of one of the projects and responsible for production related issues in the studio
- QA Coordinator: lead of Quality Assurance in the studio
- Lead BI Analyst: lead of the Business Intelligence in the studio

In addition to that, this project was given acceptance by the senior management of the Games division in Rovio.

It is also possible to affirm the leadership team of the studio has trust from the team to conduct this project. Most members of the studio have worked directly with me and some other members of the SLT, and over that time multiple process improvement initiatives were conducted and resulted in positive outcomes and better efficiency in the projects. Thus, a big part of the studio is already familiar with similar kind of initiatives.

7.2 Implementation plan

This proposal for implementation is presented as series of phases to be followed by leadership that will cover the change management, lean principles and tools, and the LTF. The

change management approach is based on the model covered in chapter 4, by Kotter (2017). The activities are organized in order to follow these best practices described by that author, but extra steps aimed were added to provide more clear guidance towards of the aspects of Lean and LTF that need to be address during the change. The different concepts and components of Lean and the LTF described in chapters 2 and 3, respectively, are analyzed and describe in the right context within the different phases of the implementation plan. Each of the phases will provide an analysis of the literature and interviews, and provide a list of suggested actions.

7.2.1 Assess the current culture

As described in chapter 3, a lean culture evolves over time by changing the way people perceive their roles and perform their daily tasks. Therefore, the current mindset must be scrutinized in search of those explicit and implicit assumptions that compose it. By having an understanding of that, it is possible to then define the gap that needs to be addressed.

One of the issues in the studio refers to the fact that almost all improvement initiatives are initiated by top management and middle-management. People who are actually doing the work and have deeper understanding of the issues affecting their routines don't act upon them. The reasons for that can be found in the culture, as part of the underlying mindset of the organization as described in chapter 3,

Once the current culture is well understood and compared against the target culture, Leadership must then make sure that the target mindset is articulated in the communications and incorporated in the leadership behavior.

Finally, is essential for leadership to understand that the goal of a Lean Transformation is not to impose new ways of working to the people, but to support and empower them to decide how to identify waste and improve their ways working with better understanding on the problem domain. Leadership must have constant attention on this issue over the whole transformation.

Suggested action points

The studio head and the SLT should evaluate the issues that currently affect the efficiency of the studio negatively. The ones provided at the start of this study are a very good start, but this group can go deeper and possibly find other issues. Each member of the SLT is

able to provide good insights from the perspective of their area (Quality Assurance, Business Intelligence, Production) or their game teams.

Having a list of the main issues, they should then look for the root causes of those issues in the culture, trying to identify the implicit and explicit assumptions related to them. In order to both validate these initial hypotheses and also acquire new insights, leadership should then interview some selected people in the studio. Based on that, leadership should define what needs to be changed in terms of leadership behavior, company rules, processes to address assumptions that are not in line with the target organization.

Over the duration of the whole transformation, the studio lead and the SLT should actively articulate the norms and rules that will compose the desired culture, ensuring that those assumptions that are incorrect or incompatible with change are removed.

7.2.2 Establish a sense of urgency

Kotter (2017) and some of interviewees state that the sense of urgency must be strong, threatening and based on negative factors, even though the organization is currently performing very well. Some other interviewees claim that only little sense of urgency is needed when goals are clear, people are motivated towards them, or the change represents an opportunity for personal growth. However, that may be true only to those individuals who already have the drive to try different things and grow. For the majority of people, those who are more traditional and tend to stick to the usual way of doing things, the sense of urgency is required to get them out of their comfort zone.

Another way to highlight the urgency for the change, as pointed out in the interviews, is to ensure that the change initiatives take higher priority over other activities. This can be a particularly challenging topic to be addressed in the short-term given the transformation activities may be more time-consuming in initial phases, what conflicts with already defined work and release plans by Product Leads. Therefore, the prioritization of improvement activities must be discussed and agreed with them, ensuring they fully support the transformation and willing to compromise on existing plans.

The feeling in the company is very positive in general terms. The performance of production, operations and finances in the studio are in good level, but as mentioned in the introduction, there are some issues that have negative effects on efficiency, innovation and morale and could be improved. Since the Lean Transformation ultimate goal is to address those kind of problems, the creation of urgency can be started from the examination of

these, linking them to more critical aspects, such as competitive situation, market positioning, negative events in the organization, etc., as suggested by Kotter (2017) and the interviewees.

Suggested Action Points

The studio head and the SLT should take the initial list of the issues that were evaluated in an earlier stage, and this time try to identify their consequences, linking them to the company performance, market positioning and competitive situation. The following questions could be addressed during this process:

- How do these issues affect the competitive situation of the studio?
- Are there competitors performing with better efficiency by eliminating those issues?
- Considering that the current financial situation is good, how could these issues hinder the financial performance in the mid- and long-term and what risks does it bring to the organization?
- How do these issues relate to technological trends?
- Were there negative past events in this company or another that resulted from those issues?
- What are the negative effects that these issues have on people (overload, stress, burnout, employee turnover, restrict creativity)?

With the outcome of the previous steps, the SLT is then able to define the negative and threatening angle that could create urgency for the change. These same elements should be reused later when working on the creation of the vision for change.

The studio head should also agree with the SLT to give high priority for the initiatives of the transformation, considering that it will require time from resources of the different teams and potentially affect some of the short-term plans of each leadership member.

7.2.3 Form a coalition team

As described in the interviews, the coalition team must be composed by mix of individuals that bring different expertise and perspectives to the group. So far, the only individuals that were directly involved in the discussions related to the Lean Transformation are the Studio Leadership Team.

However, as stated by Kotter (2007), this team should be composed by people in different levels, including people who are not part of the leadership team. Therefore, it is recommended to select other individuals from inside each game team to show by example that improvement initiatives can be initiated from every level. As described in the interviews,

these individuals must not be selected arbitrarily, but they must match a set of criteria to ensure that the initiative benefits from their participation.

It is also important to highlight that the whole leadership team doesn't need to be in the coalition team, but it is extremely important that they are well aware of the vision and priority or transformation since their decisions in their specific areas or projects may impact directly on the outcome. As mentioned in the interviews, the Product Leads have strong power and influence inside the teams and therefore must be in close collaboration with the transformation.

One interviewee recommended that a non-believer should be added to that group to ensure there is enough questioning and criticism during the process. While the goal of this approach is valid, this kind of individuals are a major risk for the change, as described by some interviewers and Kotter (2007). They could lead other coalition members and even other people in the organization to become negative about the change. To avoid that, it is suggested to ensure that one or more of the selected coalition members have a conservative personality and is able to be critical and find the blind spots, while supporting the change.

Suggested action points

The studio head can start by identifying what members of the leadership team are particularly interested about the change, and select the first individuals for the coalition team from that group. Ideally, all of them should be part of that team as they have strong influence in their areas and projects.

Then, studio head and these first members of the coalition team can collaborate on the selection of change agents from inside each of the teams, using their best knowledge on their team members. The following criteria should be used:

- Key people who have influence in the team and can champion during the process
- Individuals who want to get better on what they do
- Individuals who are passionate and have a personal connection with the issue
- People who are excited about the change
- Individuals who are engaged with the company
- One or a few of the individuals have a more conservative personality, able to openly criticize, but showing support for the change

Once the potential candidates are defined, they should be approached by their leads or studio head to talk about the matter, describe the process in general terms, highlight the

benefits of their participation and verify their acceptance. During that discussion, the criteria above can be verified to ensure their interest and fit.

7.2.4 Educate the coalition team

As described by Womack and Jones (2003) in chapter 4, the change agents in the coalition team don't need detailed Lean knowledge from the outset, but instead willingness to apply it. As the initiative moves forward, leadership should invest in developing their skills and coaching skills so that they can eventually become the ambassadors of Lean and spread its principles across the organization.

As suggested during the interviews, while leadership should empower these individuals to deal with the change and not micro-manage them, leadership should have more involvement at the initial phases of the transformation to coach the coalition team, show support and lead by example.

As discussed in chapters 4 and 7, the coalition team will be selecting and involving other people gradually, depending on the initiatives. Thus, the importance of coaching skills. By preparing them to pass responsibilities and knowledge along, the risk of creating an elite team that holds all knowledge and enforces changes onto the organization is minimized.

As recommended during the interviews, the rest of the organization doesn't need formal training on all lean concepts. They will only need a general understanding of the initiative and strong grasp of the vision, so this point will be addressed later during the communication of the vision.

Suggested action points

The studio head should organize a kick-off workshop with the coalition team. This event should have the following agenda:

- Review the overall drivers for the change (issues, goals, etc.)
- Present the principles of the Lean Transformation in high-level
- Present examples of initiatives that support the principles that underlie the Lean Transformation
- Reiterate the empowerment of the coalition team as change agents in leading the change and coaching their peers.
- Hear from each member what is their motivation being part of this group and how they expect to contribute
- Describe the next step (vision workshop, described in next sub-chapter)

In addition to that, before moving into the work of the change vision, the coalition team could be provided with reference material to read about Lean principles (articles, books, webpages, etc.), so those who are more interested about it can start deepening their knowledge in the topic.

During the whole process, the studio lead and the supervisors should have individual discussions with the coalition team members, where they give feedback and help them develop their coaching skills, so they are able to spread their knowledge and behaviors to their peers.

7.2.5 Create a vision

As shown in chapter 4, the change vision is one of the core aspects of the change management approach by Kotter (1996), being the main topic of two of the eight-step plan for change. Likewise, vision was brought up during the interviews in chapter 6 as a very important element for driving a change and motivating people. Therefore, enough attention and effort should be put into creating and refining a powerful vision that can be the true north for the transformation.

As Kotter (1996) describes, this is a complex process and should be done in collaboration with the coalition team, or even other individuals. Together leadership and coalition team should gather all relevant information and data on the organization strategy, performance, or anything that gives not only a clear rational understanding of the organization, its market position and the competitive trends.

As the same author also suggests, that process must also consider sensible values that resonate deeply with people on a personal level. That relates directly to the mission of the organization in terms of providing value (first principle of Lean) and a clear understanding of the purpose of the organization (the first component of the LTF). That said, leadership must reflect the change vision on the organization's mission and values, making sure that people can how this transformation is needed to achieve the purpose of the studio.

Suggested action points

The studio head should organize a workshop with the coalition team and SLT, so they can work on the change vision. They should see that all relevant information and data is gathered for the vision workshop, namely:

- Slingshot Studio's mission and values

- The studio strategy (strategic pillar and goals)
- Recent performance data of the studio
- Data on the market and direct competition
- Assessment of the issues, discussed in the earlier stage

During this workshop, this group must take their time to dive deep into all those elements and start building a common understanding on all those elements and their relationships. Based on that they can create the first draft of the vision, keeping in mind that it has the following characteristics: imaginable, desirable, feasible, focused, flexible and communicable (Kotter, 1996). The company mission and values should be a central point in the definition vision.

Once the first draft of the vision is created, it should be presented to some other individuals in the studio to gather feedback. After that, new rounds of the reviews should be done by the same group to address the feedback and iterate on the vision until they whole group is happy with it.

During these workshops, the groups should also define how will lead to the vision that is being defined, so people can understand how their work in different levels can contribute to the whole.

7.2.6 Communicate the vision

As described in chapter 4, under-communication is one of the most common failures when leading change (Kotter 2007). That was reinforced by interviewees in chapter 6, where they state that communication about the transformation should be done as often as possible.

At the start of the initiative, it is necessary to present the change vision to the whole studio. The vision must be communicated clearly and shortly, keeping it in very high-level at this point. For that purpose, simple stories from inside or outside the organization could be used to illustrate the problematic. It should be described how the vision contributes to the purpose of the studio, for instance how it benefits the users, employees or even the community.

When an early plan for the transformation is available, it should be also shared with the whole organization. It will set the expectations in terms of general direction, next steps, and duration of the initiative.

After that, leadership must ensure abundant communication to show that positive change is possible, giving a sense that things are in control and moving forward, and keeping a persistent direction for the change. For that matter, Kotter (2007) and the interviewees suggest that leadership should incorporate messages into all possible channels and regular activities, linking contextual events or facts to the transformation and goals.

The organization must also develop an understanding on the lean concepts in order to apply them and make them part of the daily activities, and eventually part of the culture. However, as described during the interviews in chapter 6, it is not required to give formal training to the whole organization on these more advanced concepts, and the use of technical terms and buzzwords should be avoided whenever possible. Instead, people should be exposed to examples of the application of these underlying concepts, so they can understand them in practice and act based on common-sense. As already mentioned, coalition team also has an important role of coaching the rest of the organization in the context of the initiatives.

Suggested action points

The first step in this phase is to gather the whole studio for specific session on the change vision. During this event, the studio head will present the vision and how it contributes to the mission of the studio. This should be an open question session, where people are able to voice their doubts and concerns. In addition to that, the coalition team can already provide an overview of the next steps and demonstrate support for the initiative.

Going forward, leadership should ensure active communication to provide visibility on the progress of the transformation and provide a continuous education on the lean principles. In monthly sessions with studio, leadership meetings, strategy reviews, and online team chats, leadership should:

- share examples of initiatives that apply lean concepts in different levels (inside or outside the organization)
- share progress of kaizen projects
- celebrate early results
- show recognition for individual and personal efforts
- highlight the strategic value of the transformation

The studio head and leadership must also make use of individual discussions and performance management processes to align the transformation to personal motivations. During these discussions, they should make expectations clear, defining targets that highlight the importance of the change and show recognition to personal effort that matches with those expectations.

7.2.7 Empower people

Empowering people is about responsible leadership, the central element in the LTF that has the role of coalescing all the elements of a Lean Transformation, as described in chapter 3. It also relates directly to one of the main principles of Lean: respect for people. Leadership should treat every individual with regard, trust, tolerance, so they can come forward with their support and active participation, and make use of their full potential. That will have a major impact in creating a lean culture.

According to what was described earlier in this chapter, leadership is responsible for defining, translating and communicating the vision to the organization. As Bell and Orzen (2011) state, that persistent direction is fundamental to influence behavior. Once leadership has provided the strategic direction and objectives, they must allow employees to define how to best accomplish and measure them. As the interviewees also advise, while leadership shouldn't micromanage, they must adopt a visible role in supporting those actions. By doing so, they encourage people to challenge the way things are done and take ownership for improvement, collaborative problem solving, and quality.

Finally, the same authors also argue that a lean organization must be a safe environment for sharing ideas, taking risks and failing. That will ensure that people can make use of their empowerment without fearing negative consequences.

Suggested action points

During the execution of the kaizen projects, starting already from the pilot phase, leadership should ensure that the vision and goals are crystal clear and provide constant guidance, but give freedom for the team to define how to achieve them.

Leadership must also be transparent and respectful in case certain initiatives don't go well. They should be presented along with the related learnings in the same channels as the successful cases. Likewise, individuals who make mistakes, fail to achieve their goals, or don't act according to the vision should be treated with respect and tolerance.

In order to cultivate an environment for sharing ideas and taking risks, some other actions are also suggested:

- Involve people in improvement workshops and brainstorming sessions that encourage people can freely share their opinions and ideas. These sessions could be not only related to the transformation, but also about new game concepts, game reviews, etc.
- Show openness to improvement ideas, feedback and criticism at all times.
- Highlight initiatives initiated by people in all levels to inspire their peers to follow their example and get out of their comfort zone.
- Make sure every individual understands how their own work provides value to the users and contributes to the overall purpose of the organization.

7.2.8 Create short wins

In chapter 4, it is suggested the leadership should consciously plan and create short wins in order to build momentum for the transformation and at the same time establish the ways of working and management systems. The first kaizen projects must not necessarily be the most critical for the studio, but must have the biggest potential to succeed in the short term. Areas that are more likely to demonstrate support for the change are good candidates for pilot initiatives.

The coalition team should map the value stream at a macro level, identifying the weaknesses and strengths of these streams in terms of supporting their value-driven purpose, which will allow to build a simple model to support the prioritization and sequencing change efforts, as suggested by Bell and Orzen (2011).

Suggested action points

The studio has four different game products under development, each representing one different value stream. Considering the composition of teams, stage of development, areas of faster adoption for change, the Angry Birds Friends value stream is the perfect candidate for the following reasons:

- The team has participated in some improvement initiatives
- The team has made use of agile practices of continuous improvements for a long time
- Two of the other projects are development externally, and the other is in early phase of development with new recruitments in the pipeline
- The producer of this team is very engaged in the Lean Transformation plan

The coalition team should then meet to map this value stream at a macro level, trying to identify how each process contributes to the value provided to the players. They must look for evident waste on both system and process level. With the issues identified, they can come up with a list of kaizen projects that will compose the initial kaizen backlog.

Having the initial kaizen backlog, the coalition team together with the leadership team will discuss and agree on the initial kaizen projects that can provide the short wins, according to the criteria described in this topic.

After the initial evaluation of the first value stream, leadership and the coalition team should meet and define the specific objectives for the kaizen projects in terms of quantitative key performance indicators (KPIs). Those metrics are added as part of the information of each project in the kaizen backlog. The scope of these objectives can be, for instance:

- Specific processes in a value stream: improve quality, shorten duration of cycles, etc.
- Entire value streams: shorten duration of cycles, introduce pull, reduce work-in-progress, etc.

Once the pilot kaizen projects are selected, the coalition team should build a plan to execute them, including the necessary phases, tasks, responsibilities and the expected duration. These projects and the overall plan should then be shared with the whole organization to build awareness on the progress.

7.2.9 Define the Management Systems

In addition to build momentum, initial kaizen projects are also useful to standardize communications, training, and management systems that will provide the work structure for the transformation.

As described in chapter 3, management systems must be simple to understand and execute, without being too controlling or rigid. As also suggested by the interviewees, they should be embedded on existing systems whenever possible, in order to reduce overhead but also take advantage of the familiarity with those processes. They should however, not be limited to those in any way.

Furthermore, it is also important that leadership empowers the coalition team to define the ways to work and how to measure their progress towards the goals. All these processes and routines should be constantly evaluated and refined by the team over the course of the transformation.

The following aspects must be taken into consideration when defining the Management Systems, as described in chapters 3 and 6:

- Have clear objectives based on the short- and mid-term goals
- Measure the progress towards the set goals and objectives
- Measure the progress of initiatives
- Provide constant alignment towards the change vision

- Have a clear decision-making framework

The objectives that are required to achieve the strategic goals must be defined together with the coalition team, in order to provide a clear way to measure how the initiatives are contributing to the overall change vision. They should be based on qualitative KPIs to allow clearer assessment.

Another important aspect to be measured is the progress of the kaizen initiative itself. These kaizen specific objectives are essential to ensure the progress of these initiatives and build momentum for the transformation.

In order to give visibility on the established metrics, is recommended the use of visual tools and dashboards. They should be accessible to all studio members visible at all times and preferably visible at all times. These should contain the main goals and objectives and visually indicate progress or deviations.

In addition to that, there should be a regular cycle of review meetings to verify progress, perform course correction, gather learnings for future projects and decide what is the next step. As described by the interviewees, at the start of the transformation there needs to be separate sessions focused on the kaizen projects as they require more attention in the beginning.

Finally, a clear decision-making framework needs to be defined for defining priorities on improvement areas and consistent choices when selecting kaizen projects, as proposes (Bell, Orzen 2011). Leadership and the coalition team must define the general criteria used for adding, prioritizing and sequencing the kaizen projects listed in the backlog.

Suggested action points

The coalition team together with leadership should define visual tools that give visibility on progress. Delays or deviations should be highlighted with different colors to provide the necessary visibility to the team. Among the options for visual tools are:

- Kanban board the main items of the kaizen backlog in priority order, and shows the status of each of them. This tool can also be used for brainstorming about the prioritization of activities.
- Information dashboard on a white board or TV, displaying information on the progress of the initiatives that are in progress.

The following new meetings should be established at the start of the process:

- Kaizen project kick-off: happens at the start of each kaizen initiative, where the team will review and refine the execution plan, define responsibilities and get the work started.
- Coalition team review: verify progress of all kaizen initiatives in progress, evaluate working methods, define next action points. This meeting should be done on a weekly basis in the pilot phase, but the coalition team can choose to change the cycle as needed.
- Monthly transformation review: verify progress, review the kaizen backlog, decide on next kaizen projects.

In addition to these new systems, the following meetings should be integrated to the transformation:

- Weekly leadership meeting: overview on the progress initiatives, discuss issues, evaluate results.
- Monthly studio recap: presentation of the progress of initiatives, results, and next steps.

All these processes and routines should be constantly evaluated and refined by the team over the course of the transformation. Moreover, leadership and coalition team should keep constant communication even outside of these systems, so that eventual blockers are promptly removed and deviations corrected.

7.2.10 Consolidate improvements and produce more change

As described by Bell and Orzen (2011) and some of the interviewees, once the first improvements are concluded and yield results, leaders should communicate success, failures, and lessons learned openly to establish trust and build support. Even the smallest success must be celebrated.

As Kotter (2007) suggests, in addition to results being promoted, the people involved should be recognized in the form of appraisals, raises, promotions or even monetary compensation depending on the context. That will set a positive example and help keeping the high sense of urgency. However, these should be still done according to the current career and remuneration structure of the organization.

It is important, however, that leadership acknowledges and enforces that these are just the first steps, and there is still a long way to go until changes are rooted in the culture of the organization. As Kotter (2017) states, this process usually takes years for that to happen.

Based on the learnings and the credibility created by this pilot projects, leadership should involve people who are most enthusiastic about the change in the new initiatives. In addition, the members of the coalition team, who at this stage should have a strong understanding of lean and practical knowledge on kaizen projects, must be involved in driving change in the areas where the adoption is slow.

As already mentioned before, the Lean management systems should be integrated into the management process of the studio so that kaizen planning and results measurement becomes part of the regular management review and planning processes.

Suggested action points

In order to give more focus on the first wins, the studio head could organize spontaneous sessions targeted to promoting the results of the initial kaizen projects. As it is already common in the company for celebrating releases, good results, etc., it should be likewise celebrated with sparkling wine and some food. In these events, members of coalition team could share their experiences and learnings to enforce that sense that the change is coming from the within team and gain support from all level for the next projects.

During those sessions, leadership must present the vision and the steps in between to illustrate that there is still long way ahead, and encourage everybody to take part and continue with the efforts.

As another measure, the current performance management and career structure should be complemented by elements that support the transformation as follows:

- Individual target setting should include participation in kaizen activities. This could be done initially only for the coalition team, then extended as the pilot projects show first results
- Performance evaluation should take into consideration the values and behaviors that promote a lean culture: proactive behavior, quality, focus on value, reduction of waste, respect for people, etc.
- Promotions and salary raises should take into consideration the same values and behaviors listed above.
- Regular coaching discussions should always address these values and behaviors.

The next step for leadership, is to identify new change agents that are enthusiastic with the change and start expanding the coalition team. The coalition team may have their own suggestions for good peer candidates.

After that, the planning phase for new initiatives starts again with the selection of new kaizen projects. At this point, the more challenging projects in terms of adoption should be

selected. Moreover, leadership should ensure that each new kaizen project has one or more members from the original coalition team, so that the initial learnings are applied and the same mistakes are not repeated.

Leadership must then ensure that all the activities and approaches applied for the pilot kaizen projects must be consistently repeated (visible support, constant communication, celebration of results, etc.)

7.2.11 Institutionalize new ways of working

As describe the LTF, a sustained Lean Transformation is only possible when the culture evolves to reinforce new behaviors. If the change is not rooted in the culture of social norms and shared values of the organization, the initial progress will fade as soon as the pressure is removed.

However, leadership must also be able to listen and observe constantly, as suggests one of the interviewees. That will allow them to verify if decisions were right, if people are enjoying their work, if people are in the right place, and if the culture is evolving as expected.

Suggested action points

Leadership must communicate actively and consciously attempt to show people how the new approaches and behaviors are helping to improve performance and reach the goals of the organization. They should constantly link every positive result to the Lean Transformation, in every possible channel. Likewise, recruitment, promotions, salary raises, performance evaluations, should include the expected values and behaviors that foment the transformation.

In order to gather constant feedback and identify issues, leadership must show openness and make use of tools and approaches such as:

- Individual discussions with all studio members
- Surveys about specific or general aspect of the transformation
- Constantly ask feedback from leadership team
- Anonymous suggestion box

To conclude, leaders must lead by example. Even though their involvement in some kaizen projects will be reduced over time, they must be present. They must comply with the new ways of working and provide visible support throughout the transformation, not only for initial efforts.

8 Conclusion

This study discussed the different principles, methods and tools involved in the implementation of a Lean Transformation, with strong focus on role of Leadership in creating a lasting change in the organization. The answers for the research questions are presented below.

Research Question 1:

At the very core of the transformation, are Lean Principles: Value, Value Stream, Flow, Pull, Respect for People, Pursuit of Perfection that represent the fundamental aspects that guide the organization in building a lean culture. In addition to that, the Value Stream Mapping, Waste Identification and Kaizen projects provide the means through which those principles are applied in practice.

Research Question 2:

As it was discussed throughout the whole study, leadership has a pivotal and challenging role in driving the Lean Transformation. They have influence in all different aspects of the organization, and therefore must take the responsibility of creating the vision, building trust and gaining support, providing active and visible support, empowering people to take actions and make decisions, communicating actively on the transformation, and showing a behavior consistent with vision and inspire others.

Research Question 3:

A Lean Transformation is a very complex process that affects the different dimensions of the organization: purpose, people capabilities, culture, leadership and management systems. In that context, The Lean Transformation Framework provides a simple theoretical model that defines how these dimensions related to each other, and what issue must be addressed in the context of a transformation (Lean Enterprise Institute 2017). Finally, in order provide a structured change management approach to address all the issues, build momentum and sustain the change, the eight-step Change Management approach by Kotter (1996) was applied.

Research Question 4:

Several pitfalls were discussed in this thesis. Among most critical are:

- Lack of urgency that is necessary to take people out of their comfort zone
- Lack of a strong and clear vision that inspires people to work together
- Lack of follow-up after pilot phases that lead to loss of momentum for the change
- Micromanagement or lack of trust and empowerment on people
- Lack of communication about the change
- Leadership that doesn't behave according to the new proposed values

As a conclusion, the implementation proposed in this study provides leadership not only with an in-depth understanding on all the different principles, tools and methods necessary in a Lean Transformation, but also a comprehensive guide with all necessary steps, recommendations and actionable points to drive this undertake in a very structured fashion, ensuring that all the aspects related to building and high-performing lean culture are covered.

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